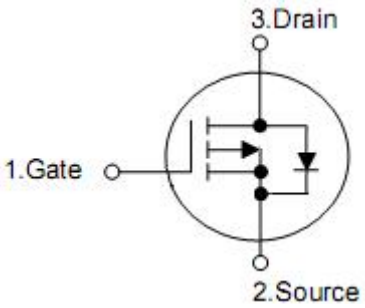
1. Features

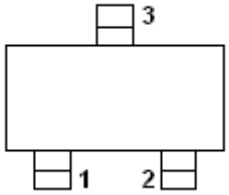
- V_{DS}=-20V,$R_{DS(on)}$=61mΩ@V_{GS}=-4.5V,I_D=-3.3A
- V_{DS}=-20V,$R_{DS(on)}$=71mΩ@V_{GS}=-2.5V,I_D=-2.8A

2. Applications

- DC/DC converter
- Load switch
- Battery powered system
- LCD display inverter
- Power management in portable, battery power products

3.Symbol





Pin	Function
1	Gate
2	Source
3	Drain

4. Absolute maximum ratings

(T_A=25°C,unless otherwise noted)

Parameter		Symbol	5s	Steady State	Units
Drain-source voltage		V_{DS}	-20		V
Gate-source voltage		V_{GS}	±12		V
Drain current continuous (T_J=150 ℃)	T_A=25°C	I_D	-	-3.3	A
Pulsed drain current		I_{DM}	-20		A
Continuous source current (diode conduction)[a]		I_S	-1.7	-1	A
Power dissipation [a]	T_A=25°C	P_D	1.25	0.75	W
Junction and storage temperature range		T_J,T_{STG}	-55 to150		℃

a. Surface mounted on FR4 board using 1 in sq pad size, 2oz Cu.

Parameter	Symbol	Typ	Max	Units
Maximum junction-ambient [b] (t≤5 s)	R_{thJA}	75	100	℃/W
Maximum junction-ambient [b]		125	165	℃/W

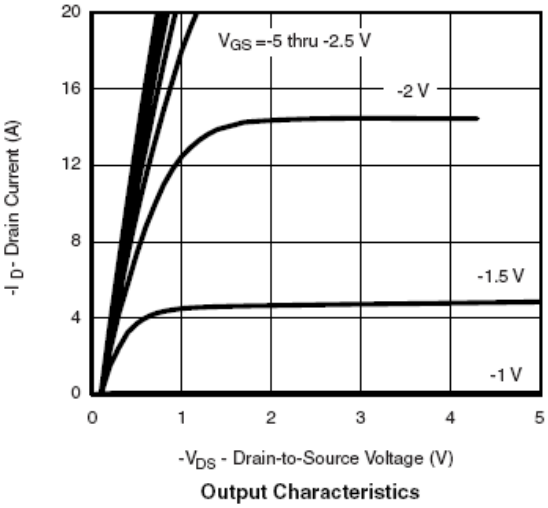
b. Surface mounted on FR4 board using 1 in sq pad size, 2oz Cu

5. Electrical characteristic

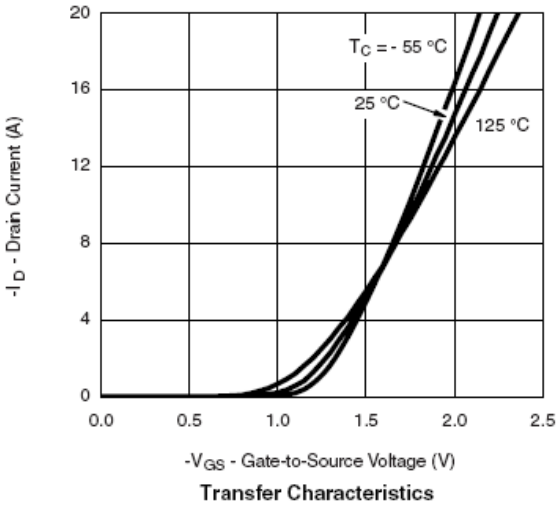
(T_J=25°C,unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Drain-source breakdown voltage	BV_{DSS}	V_{GS}=0V,I_D=-250μA	-20	-	-	V
Gate- source leakage current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V	-	-	±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V	-	-	-1	uA
Gate threshold voltage*	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.35	-0.63	-1.0	V
Static drain-source on-resistance	$R_{DS(on)}$	V_{GS}=-4.5V,I_D=-3.3A	-	52	61	mΩ
		V_{GS}=-2.5V,I_D=-2.8A	-	65	71	
Forward transconductance	gfs	V_{DS}=-5V, I_D=-3.3A	-	3.0	-	S
Input capacitance	C_{iss}	V_{DS}=-6.0V,V_{GS}=0V, f=1MHz	-	-	700	pF
Output capacitance	C_{oss}		-	-	160	
Reverse transfer capacitance	C_{rss}		-	-	120	
Turn-on delay time	$t_{d(on)}$	V_{GS}=-4.5V ,V_{DD}=-6.0V, I_D =-1.0A,R_G=6Ω,	-	-	25	ns
Rise time	t_r		-	-	55	
Turn-off delay time	$t_{d(off)}$		-	-	90	
Fall time	t_f		-	-	60	
Total gate charge	$Q_{g(tot)}$	V_{DS}=-6.0V, V_{GS}=-4.5V I_D=-3.3A	-	8	13	nC
Threshold gate charge	$Q_{g(th)}$			0.2		
Gate-source charge	Q_{gs}		-	1.2	-	
Gate-drain charge	Q_{gd}		-	2.2	-	
Forward diode voltage	V_{SD}	V_{GS}=0V,I_S=-1.6A	-	-0.8	-	V

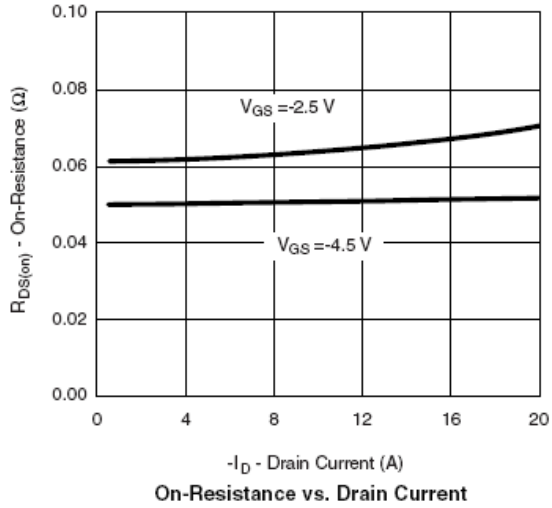
5. Test circuits and waveforms



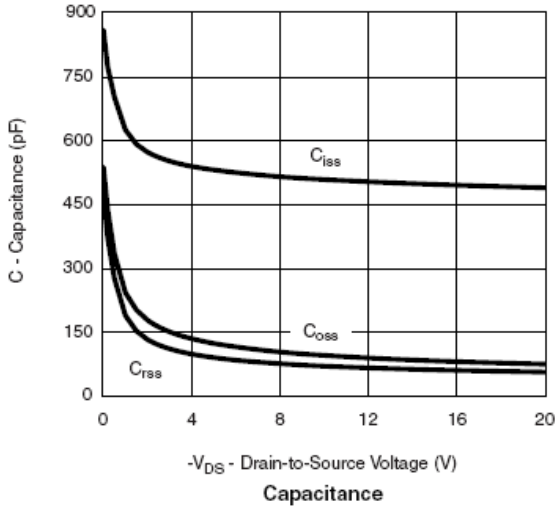
Output Characteristics



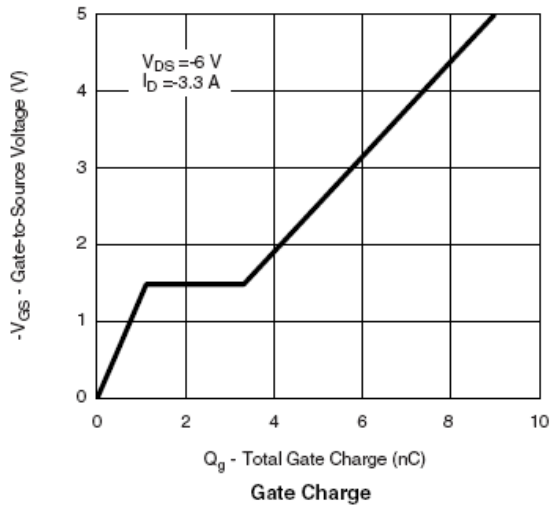
Transfer Characteristics



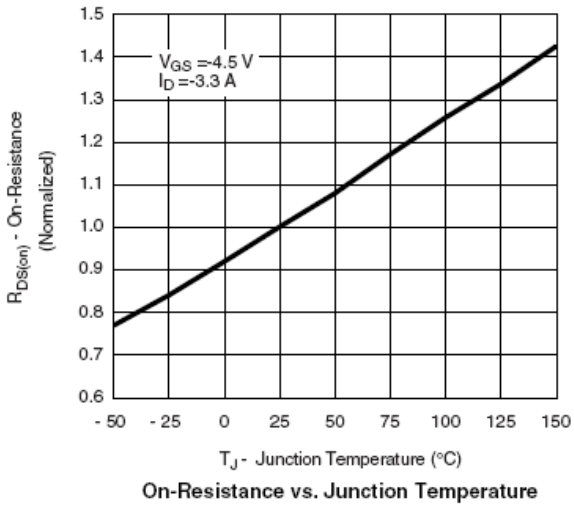
On-Resistance vs. Drain Current



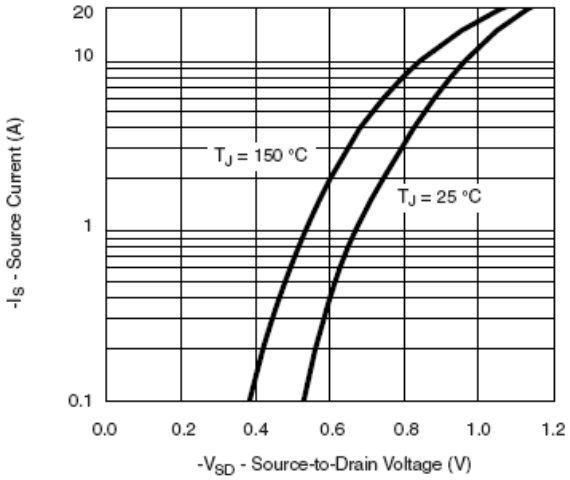
Capacitance



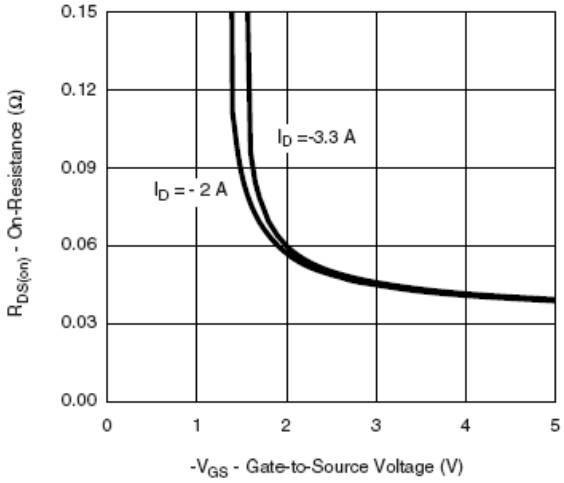
Gate Charge



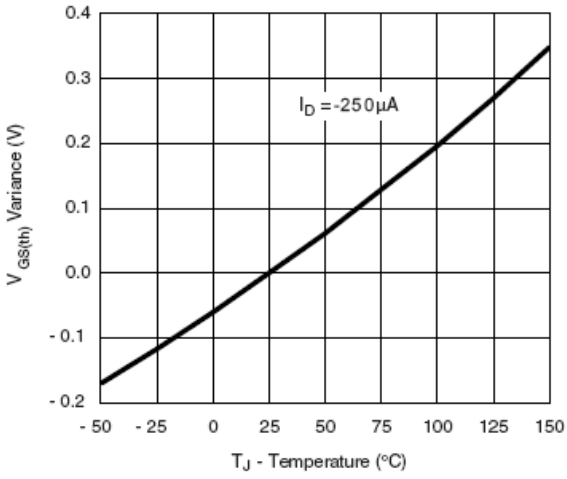
On-Resistance vs. Junction Temperature



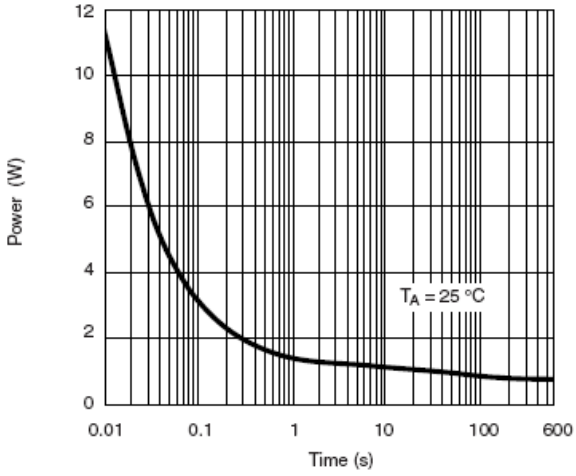
Source-Drain Diode Forward Voltage



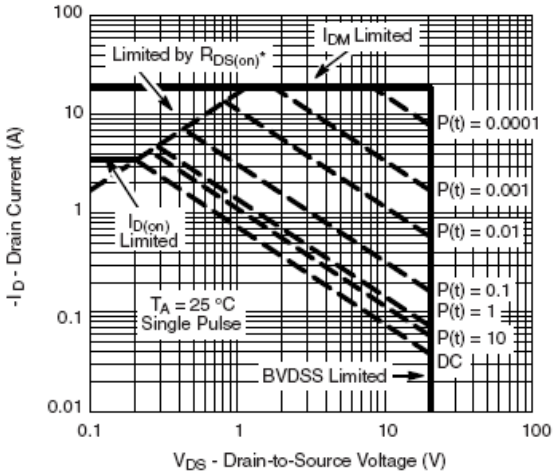
On-Resistance vs. Gate-to-Source Voltage



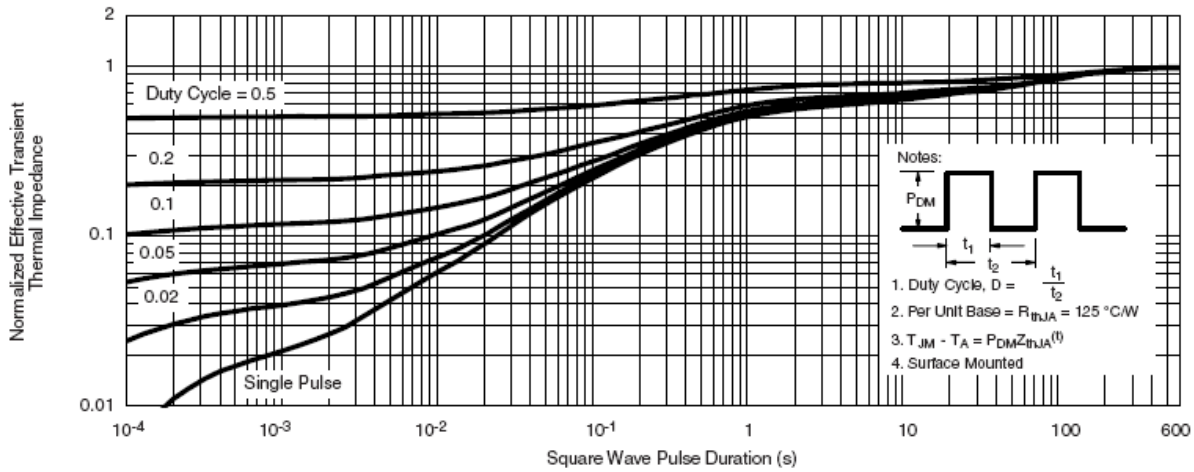
Threshold Voltage



Single Pulse Power



Safe Operating Area



Normalized Thermal Transient Impedance, Junction-to-Ambient